

MOYNIHAN TRAIN HALL DESIGN & CONSTRUCTION EXHIBITS

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EXHIBIT A

BLOCKING AND STACKING DRAWINGS

Two sets of diagrams can be found at the link below:

- 2016 FARLEY TRAIN HALL BLOCKING AND STACKING DRAWINGS
- 2007 USPS SPACE AREA ASSIGNMENTS & LAYOUTS FROM 2007 LEASE AGREEMENTS

<http://bit.ly/empirestation>

EXHIBIT B

TRAIN HALL DRAWINGS AND SPECIFICATIONS

The drawings are available for download upon signing and returning via email a Confidentiality and Non-Disclosure Undertaking ("Confidential Agreement"). To download the Confidentiality Agreement, please visit: <http://bit.ly/empirestation>.

EXHIBIT C

REQUIRED DESIGN REVISIONS

Scope items listed in this Exhibit C will be provided with a nominal criteria (purpose, function and characteristics of the project) in sufficient detail to delineate and characterize functional features and the image of the project. Site, architectural, structural and mechanical requirements are identified where available. It is the responsibility of the Selected Developer to bring these items to final design and construction completion.

Custom Entrance Canopies

Provide custom entrance canopies made of glass and steel at 31st street and 33rd street midblock entrances and 8th Avenue North and South entrances. The work includes but is not limited to:

1. Architecturally exposed structural steel (AESS) canopy support framing and integral steel plate gutter assemblies; including surface preparation, shop priming and shop-applied high-performance architectural finish painting.
2. Coordination and provisions for heat trace system and drainage piping at integral AESS gutter.
3. Chemically strengthened glass and glazing; including compound curved laminated glass.
4. All sealant, gaskets, elastomeric and metal flashing within assemblies and between assemblies and contiguous construction.
5. All anchors, patch fittings, brackets, threaded hangers, welded sleeves, fixings, attachments, reinforcements and steel reinforcing required for a complete installation, except those specifically indicated as being provided by other trades.
6. Removable screen assemblies and associated hardware.
7. Testing and verification of design, components and assembly.
8. Material samples and visual shop mock-ups.
9. Shop drawings, calculations, engineering data and test reports.
10. Field measurements of adjacent and/or supporting construction and verification of existing conditions.
11. Scheduling and monitoring of the Work.
12. Coordination with the Work of other trades.
13. Storage, handling, protection and cleaning.
14. Warranties and indemnities.

Related Work Specified in the provided “Substantially Completed - Not For Construction” documents:

1. Modifications to existing exterior stonework in conjunction with custom entrance canopies are specified
2. Materials and Section 04 92 00 Stone Masonry Restoration.
3. Refer to Section 05 12 00 Structural Steel for all other requirements regarding steel work not included in this Section.
4. Sealants and joint fillers installed at interface of custom entrance canopies and other building components are specified under Section 07 92 00 Joint Sealants.

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5. Custom building entrance doors and portals are specified in Section 08 45 00 Custom Entrance Doors and Portals.
 6. Plumbing pipes and collars for gutter drainage are specified in applicable Plumbing specification Sections.
 7. Heat trace system for installation in canopy gutter assemblies is specified in applicable Electrical specification Sections.

System Description:

The custom entrance canopies are cantilevered AESS and glass structures providing shelter from rain and snow. The custom entrance canopies as described herein is that portion of the Project that comprises materials, components and assemblies which shall be considered a complete system providing a high quality, watertight, airtight and structurally sound enclosure to the specified standards.

1. All canopy component parts shall conform to New York State Code required loads and load combinations.
2. Wind Loading Requirements: Design, fabricate and install component parts so that on the projected area, the completed custom entrance canopies will withstand the following:
 - a. A downward and upward pressure of 50 psf.
3. Snow Accumulation and Drift: Design, fabricate and install custom entrance canopies to withstand snow accumulation and asymmetrical loading as required by New York State Code.
4. Building Movement: Design, fabricate and install custom entrance canopies to withstand movements of existing building; including loading deflections, vibrations, and similar movements.
5. Live Loads Movement: Provide reinforcement and anchorage for 200 lb minimum concentrated live load plus 100% allowance for impact, applied to 2 inches diameter circular area anywhere on horizontal and sloped canopy elements, such as curbs, steel supports, glass, glazing, integral gutters and other assemblies subject to maintenance, foot traffic or other loads imposed by possible or potential human contact. No failures, component disengagement or permanent deformation permitted except as allowed for statistical breakage probability of glass.
6. Deflections: Maximum full load deflections, normal to the projected area of the custom entrance canopies, for member shall not exceed 75% of the design clearance dimension between that member and the panel, glass or other part immediately adjacent. Maximum full load deflections, parallel to projected area of canopies, shall not exceed 75% of the design clearance dimension between that member and the panel, glass or other part immediately adjacent. Submit engineering calculations to show maximum deflections based on full panel loads, uniformly distributed, building deflections, thermal stresses, and erection tolerances. Glass, sealants shall not be included to contribute to framing member strength, stiffness or lateral stability. Deflection of any member under 1.5 times design wind load shall not result in sealant failure. Splice joints which permit thermal and other movements by slippage within the joint shall be assumed to have zero moment capacity. Maximum full load deflections, normal to

the projected area of the canopy plane, for any member or component shall not exceed the following:

- a. Custom Entrance Canopies: $1/240$ of its clear span or $3/4$ in., whichever is less.
 - b. Glass Panels: Maximum deflection on glass panel shall not exceed $1/2$ in. at center point and maximum deflection of system (mullion and glass) shall not exceed 1 in. when subject to full design load.
 - c. Integral Gutters or Other Fabricated Metal Items: $1/120$ of its clear span or $3/4$ in. whichever is less. Deflection shall be measured relative to the horizontal and vertical support members with the allowable deflection being determined by the lesser dimension.
7. Temperature Requirements: Design, fabricate and install component parts to provide for expansion and contraction of the custom entrance canopies over an ambient exterior temperature range and exterior metal surface temperature of -10 deg. F. through $+180$ deg. F. without buckling, sealed joint failure, glass breakage, undue stress on members or anchors, and other detrimental effects.

Design Criteria

Provide glass thicknesses and chemical strengthening treatment in compliance with ASTM E1300, ASTM C1422, and other recognized industry standards, as required to meet specified design criteria, in-service conditions and the following:

1. Vertical Glass: For glass set vertically or less than 15 degrees from vertical so as to limit the statistical probability of failure to eight lights per thousand at "Design Wind Pressures" based upon a 60 second uniform load duration.
2. Sloped Glazing: For glass inclined more than 15 degrees from vertical, including glass for custom entrance canopies, provide glass in thickness such that the statistical probability of glass failure at the "Design Wind Pressure", plus snow load as required by NYC building code, shall not exceed 1 light per 1000 lights based upon a thirty (30) day load duration.
3. Stress Breakage: Design glass to resist temperature stress breakage, and stresses induced by adjusting glass curvature in the field.
4. Differential Shading: Design glass to resist thermal stresses induced by differential shading within individual glass lites.
5. Isolation of Glass: Glazing is physically and thermally isolated from AESS framing members and glazing-to-glazing joints accommodate thermal and mechanical movements of glazing and system, prevent glazing-to-glazing contact, and maintain required edge clearances.
6. Safety Glazing Labeling: Where safety glazing labeling is indicated, permanently mark glazing with certification label of certification agency acceptable to authorities having jurisdiction. Label

shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies. Locate labeling on No. 1 surface of glass (top surface).

Unacceptable Conditions: Vibration harmonics, wind whistles, noise or vibration created by thermal movement, structural movement, or wind; thermal movement transferred to existing building structure; loosening, weakening or failure of fasteners, attachments or other components.

Design Modifications: Make design modifications of Work shown only as may be necessary to meet performance requirements and coordinate the Work. Variations in details and materials which do not adversely affect appearance, durability or strength shall be submitted to the Architect for review. Maintain the general exterior design concept without altering profiles and alignments shown. Unless otherwise defined by the Contract Documents, appearance of exposed elements of custom entrance canopies shall be consistent throughout the Project.

Rugosity: Shop-applied metal coatings shall exhibit a rugosity (smoothness) not greater than 4 rug (16-20 microns of variation) when measured by a profilometer over a 1 inch straight line on the surface of architectural and structural elements that are less than 24 pounds per running foot. Profilometer shall be capable of operating in 1 micron increments. Surface blasting prior to application of shop-applied post galvanizing wet coatings will produce a high rugosity and will not be acceptable.

Column Strengthening:

All existing interiors columns located in the public train hall section of the James A. Farley Building support the floors above. The goal of the final design is to balance the columns so that no element is significantly weaker than the existing skylight columns, per the 100% submission specifications. Columns should be reinforced and hardened as per threat assessment criteria to be completed by the Selected Developer and approved by the Project Sponsors. Reinforced column surface area should be minimized to observe existing clearances.

Construction Phasing Plan:

The Selected Developer shall submit construction phasing plans where construction sequences must be controlled to assure proper safety and operations at USPS, all railroad operations along with passenger movement, sequencing of pedestrian or vehicular routing, signage, staging areas, train hall and midblock skylight erection, reconfiguration of the loading docks, etc.

Rail operations shall be maintained during the entire construction period. The Selected Developer shall not remove facilities from service that may affect operations until temporary provisions have been made or permanent construction has been completed to assure that the operations will continue. The Selected Developer shall cooperate fully with Rail Operators during construction operations to minimize conflicts. Any tasks requiring Overhead Catenary or third rail power outages shall be performed during approved times only as stipulated. The Selected Developer must comply with Rail Operator's procedures to obtain track outages and power outages.

Under platform surveys is a description of existing conditions being impacted by proposed design

elements i.e. columns, elevator pits, stair structure, etc. The Selected Developer and its Contractors shall be responsible for inspecting areas under all platforms impacted by the work to identify all utilities both active and abandoned.

To facilitate the Rail Operators' flexibility to provide protection, foul time and/or track outages on a regular basis, the Selected Developer and its Contractors' means and methods shall be in a manner that optimizes the Rail Operators' ability to substitute protection resources, foul time and/or track outage combinations.

Interim staging plans should be developed for the USPS throughout the development of their current space so as to allow them to maintain operations throughout construction. Plans should include employee access to the loading docks, access to bathrooms, temporary facilities where required, temporary utilities where required, etc.

The Selected Developer's and its Contractors' means and methods should be outlined in the proposal for all major work components.

All temporary and permanent construction that impacts track level must be approved by Amtrak and the Federal Railroad Administration.

All street closures need to be coordinated with the New York City Department of Transportation (NYCDOT). Drawings and coordination for the installation of the security bollards around the building perimeter must be signed-off by the NYCDOT, the 34th Street Partnership and New York City Transit (NYCT) where applicable.

The site must be protected from the elements; water and weather intrusion must be carefully mitigated throughout construction.

New York State Code:

The provided "Substantially Completed - Not For Construction" documents have been designed to NYC Building code by the architect of record. The Selected Developer is required to review the existing contract documents (inclusive of specifications and contract drawings) and modify them to reflect New York State code. The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to the James A. Farley Building.

EXHIBIT D

ALTERNATE DESIGN REQUIREMENTS

Alternate designs may be proposed for the following elements of the Farley Train Hall Project, but are subject to approval by the Project Sponsors:

- Mechanical, electrical and plumbing (MEP) systems;
- Centralized heating and cooling;
- Interior building finishes;
- Exterior building finishes;
- Train hall retail layouts;
- Restoration of building façade/windows/roof, subject to SHPO approval;
- Historic salvage from the existing building;
- Loading dock configurations;
- Restroom locations and sizing;
- Train Hall and Mid-block skylights, subject to SHPO review and approval. It is expected that any alternative skylight designs would not result in increased structural loading or train-shed work beyond that required for the current skylight designs. The three main east-west sorting room trusses must be incorporated into any alternative design. In addition, the Selected Developer will be responsible for any and all analysis, including computational fluid dynamic and smoke purge analysis, as part of a skylight redesign. Any redesign of the skylight cannot material impact the schedule requirements and deadlines as outlined within this solicitation.

All design, fabrication and construction shall conform to the applicable standards from the following entities:

- American Concrete Institute (ACI) Building Code Requirements for Structural Concrete (ACI 117, 211.1, 305R, 206R, 315, 318, 347R, 531)
- Americans with Disabilities Act Accessibility Guidelines (ADAAG)
- American Gear Manufacturers Association Standards (AGMA)
- American Institute of Steel Construction (AISC) Steel Construction Manual
- Air Movement and Control Association, Inc. (AMCA)
- American National Standards Institute (ANSI)
- American Refrigeration Institute (ARI)
- American Society of Civil Engineers (ASCE) Minimum Design Loads for Buildings and Other Structures (ASCE 7-05)
- American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)
- American Society for Mechanical Engineers (ASME)

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- American Society for Plumbing Engineers (ASPE)
 - American Society for Testing and Materials (ASTM)
 - American Water Work Association (AWWA)
 - American Welding Society (AWS) Structural Steel Welding Code (AWS A5.4, A5.9, D1.1, D1.2, D1.6)
 - Architectural Woodwork Institute (AWI)
 - Building Code of New York State
 - Con Edison Construction Requirements
 - Environmental Protection Agency (EPA)
 - Factory Mutual (FM)
 - Federal Railroad Administration (FRA)
 - Fire Code of New York State
 - Fuel Gas Code of New York State
 - Glass Association of North America (GANA)
 - Illuminating Engineering Society of North America (IESNA) Lighting Handbook
 - Industrial Fasteners Institute (IFI), Fastener Standards Book
 - International Organization for Standardization (ISO)
 - Mechanical Code of New York State
 - National Association of Architectural Metal Manufacturers (NAAMM), Metal Finishes Manual
 - National Board Inspection Code (NBIC)
 - National Building Granite Quarries Association, Inc. (NBGQA) Specifications for Building Granite
 - National Electrical Manufacturers (NEMA)
 - National Electrical Code (NEC)
 - National Fenestration Ratings Council (NFRC)
 - National Fire Protection Association (NFPA)
 - National Park Service Preservation Briefs, The Repair of Historic Wooden Windows
 - National Roofing Contractors Association (NRCA)
 - National Standard Plumbing Code (NSPC)
 - New York Landmarks Conservancy
 - NYPD Counter Terrorism Security Requirements
 - Plumbing Code of New York State
 - Sheet Metal and Air Conditioning Contractors' National Association (SMACNA)
 - Society for Protective Coatings (SSPC)
 - State Historic Preservation Office (SHPO)
 - The Occupational Safety and Health Administration (OSHA)
 - Underwriters Laboratories (UL), (Components shall be labeled appropriately)

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- U.S. Department of the Interior (USDIO), United States Secretary of the Interior Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings

A complete set of codes and criteria should be set at the time of final design, with applicable dates. Occupancy classifications, occupancy separations, construction requirements, egress, fire protection and life safety systems shall be design as per New York State codes and standards. Any modification to an existing Amtrak, USPS or tenant space must be reviewed with the named tenant prior to final design; the Developer should make best efforts to maintain the spatial relationships and square footages previously designed in the “Substantially Completed - Not For Construction” contract documents provided with the Design Criteria.

Other scope elements are **not** subject to proposed alternate designs. In particular and without limitation Proposers should be aware of the following fixed elements of the current design:

- **Train Shed Work.** The Train Shed work includes the installation of construction sheds, vertical/horizontal barriers, column installation, footing reinforcement, girder installation, girder reinforcement and other work as shown on the SOM drawings and specifications, subject to modification of the passenger escalators that service the Train Hall and platform levels from a 40” width to a 32” width, which will be shown in revised drawings to be issued by Addendum.
- **Baggage Elevators/Passenger Escalator Locations.** The locations of the five baggage elevators and eleven passenger escalators down to the platform level are fixed and not subject to modification.
- **Train Hall Services.** The position and layout of ticketing, waiting, baggage handling and back-of-house functions have been finalized after substantial analysis and negotiation. Modifications to the placement and design of these functions are not anticipated at this time.
- **Electronic Security Systems:** The Phase II security system design will be an extension of the security elements agreed to in Phase I as it applies to the physical security portion of the project. In Phase I, the security system had been programmatically developed by DVS and the balance of the design team and presented to the stakeholders and NYPD.
- **Public Address Expansion Systems:** The public address expansion system will be capable of providing announcements from fixed recorded announcements and microphone locations within Penn Station Amtrak, LIRR and NJ Transit operations. The Phase II project will be a distributed audio system connected to the Phase I system. The Fire Alarm system will be linked to the PA system for specific zones where the fire annunciators will not cover the area. The combined areas for fire alarm and public address will be compliant to NFPA 72 code.

EXHIBIT E

TRAIN HALL WORK CONSTRUCTION REQUIREMENTS

The Selected Developer must enter into one or more Construction Contracts for construction of the Train Hall Work in form acceptable to the Project Sponsors and including the Project Sponsors as third-party beneficiaries and indemnitees. A sample form of Construction Contract will be issued to Proposers by Addendum. However, Proposers may propose alternative forms of Construction Contract subject to the Project Sponsors' approval, which will not be unreasonably withheld provided that the applicable requirements set forth in the Development Agreement are covered. Such requirements will include, without limitation:

- a. Fixed or Guaranteed Maximum Price.
- b. Time of the Essence Completion Date(s) and Liquidated Damages.
- c. New York State Non-Discrimination Compliance and Contractor & Supplier Diversity Compliance and Federal Disadvantaged Business Enterprise Compliance.
- d. Integrity Certification.
- e. Payment of Prevailing Wages.
- f. Federal Funding Requirements.
- g. Background Qualifications Questionnaire.
- h. Non-Collusive Bidding Certification.
- i. Offeror Disclosure of Prior Non-Responsibility Determinations.
- j. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion.
- k. Certification Regarding Lobbying Pursuant to 31 U.S.C. 1352
- l. Labor and Material Payment Bond.
- m. Performance Bond.
- n. Insurance and Indemnification Requirements.
- o. Warranty Requirements.
- p. Buy America Requirements.

Construction must not disrupt normal operations of the USPS, Amtrak, LIRR and NYCT. The Proposal must include a detailed construction plan showing how the construction will be carried out so as to avoid such disruption and also showing the timing of all access requirements. The Selected Developer and its Contractors will be expected to coordinate with the Project Sponsors to identify the work areas in each phase of the construction.

The Project Sponsors will hire representatives to provide owner representation services including requisition, schedule and submittal review, observation of construction, attendance at construction meetings, response to questions and review of changes. Except as the Project Sponsors may otherwise determine, all construction submittals shall be distributed to the Project Sponsors' representatives for review and comment.

All changes to the work as depicted in the final drawings and specifications issued for construction shall require the Project Sponsors' approval before being implemented. The Project Sponsors shall have the right to require changes to the work within the general scope of the Moynihan Train Hall Project, and the financial contribution of the Project Sponsors and the schedule for completion will be adjusted accordingly.

The Project Sponsors will hire an independent third party commissioning agent experienced in the performance testing and commissioning and building mechanical, electrical and plumbing (MEP) systems to conduct performance tests, certify performance of MEP equipment and prepare a performance test report. The Selected Developer and its Contractor(s) will be required to coordinate and cooperate with the Project Sponsors' commissioning agent.

The Selected Developer will be required to submit the Project Sponsors working drawings showing the final permanent installation of the construction work, including fixtures, layouts, locations of MEP equipment, identification and dimensions of equipment, identification and dimensions of program space, dimensioned Train Shed structural reinforcement/support installation, identification and dimensions of vertical transportation elements and other information customarily included in as-built documentation.

EXHIBIT F

2006 TRAIN HALL DRAWINGS AND SPECIFICATIONS – FOR REFERENCE ONLY

For reference only, the Project Sponsors will make available to review, upon request, construction plans and specifications for the train hall project developed by SOM in 2006.

The drawings are available for download upon signing and returning via email a Confidentiality and Non-Disclosure Undertaking (“Confidential Agreement”). To download the Confidentiality Agreement, please visit: <http://bit.ly/empirestation>.

EXHIBIT G

LIST OF ANTICIPATED ADDENDA

- SOM TERMS FOR DESIGN AND CONSTRUCTION PHASE SERVICES
- MOYNIHAN TRAIN HALL VALUE ENGINEERING ANALYSIS
- MOYNIHAN TRAIN HALL STAKEHOLDER DESIGN REVIEW COMMENTS
- TRAIN-SHED WORK DESIGN UPDATES – ESCALATORS
- TERMS OF PROJECT PROFESSIONAL LIABILITY INSURANCE
- INSURANCE REQUIREMENTS – CONSTRUCTION
- INSURANCE REQUIREMENTS – POST-CONSTRUCTION
- SAMPLE CONSTRUCTION CONTRACT FORM
- DEVELOPMENT AGREEMENT ABSTRACT
- OPERATION & MAINTENANCE STANDARDS
- FORCE ACCOUNT AGREEMENT FORM & KEY TERMS
- PROJECT LABOR AGREEMENT FORM & KEY TERMS
- DASNY CURRENT FEE SCHEDULE
- LIQUIDATED DAMAGES
- TENTATIVE TRACK OUTAGE SCHEDULE
- FINANCIAL OFFER SUBMISSION FORM AND INSTRUCTIONS